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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

DANIEL JR, WILLIE J

ART UNIT	PAPER NUMBER
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2686

DATE MAILED: 10/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/773,255

Applicant(s)

AMALFITANO ET AL.

Examiner

Willie J. Daniel, Jr.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3,4 and 8-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3,4 and 8-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The objection to the specification is withdrawn, as the proposed disclosure correction is approved.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 3, 4, 8-17 are rejected under 35 U.S.C. 102(b) as being anticipated by **Dent (US 5,894,473)**.

Regarding **Claim 3**, Dent discloses in a cellular mobile radiotelephone system which reads on the claimed “wireless communication system” in which mobile station (170) reads on the claimed “remote subscriber units” are located in cells, and at least two cells are located adjacent one another, each cell having a base station unit (160) that coordinates communication with remote units (170) located within its respective cell (see col. 20, lines 39-46; Figs. 10 and 12), a method comprising the steps of:

in an operating base station (1), determining the existence of communications occurring in adjacent cells (see col.8, line 29-37; col. 16, lines 11-15, 32-64), where the base station is

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able to determine the communication in adjacent cells to allocate timeslots according to the power;

receiving, by the operating base station (1), a report of an expected time of low interference communications from an adjacent base station (2) (see col.8, line 29-37; col. 16, lines 11-15, 32-64; col. 20, line 39 - col. 21, line 6), where the base station is informed of the low and high interference from an adjacent base station to determine how to allocate timeslots in which the report is the control information provided by the MSC (165) or base station (160) during the monitoring of cells. The MSC or BS controller performs the processing decisions in which the BS provides the information of the candidate cells to the mobile unit. Therefore, the each BS must have information from each of the adjacent BS.; and

scheduling transmission of high interference communications associated with a subscriber unit (170) in the cell associated with the operating base station (1) at the expected time of low interference communications in the adjacent cell (2) (see col. 8, line 29-37; col. 9, lines 15-29; col. 10, lines 20-36; col. 16, lines 2-5,11-15,32-64), where the transmission of signals are schedule in accordance to high power with low power to minimize interference between timeslots.

Regarding **Claim 4**, Dent discloses wherein the report is a report of a service status message from the adjacent base station (2) and is relayed from a subscriber unit (170) located in the cell served by the serving base station (1) (see col.8, line 29-37; col. 16, lines 11-15, 32-64; col. 20, line 39 - col. 21, line 6; Fig. 10 and 12), where the absolute and relative information (report) is broadcasted to the mobile (170) from the base station where the

candidate cells are monitored by base stations and MSCs to determine how to allocate timeslots for mobiles within cells. The MSC or BS controller performs the processing decisions in which the BS provides the information of the candidate cells to the mobile unit. Therefore, each BS must have information from each of the adjacent BS.

Regarding **Claim 8**, Dent discloses in a wireless communication system in which remote subscriber units (170) are located in cells, and at least two cells are located adjacent one another, each cell having a base station unit (160) that coordinates communication with remote units (160) located within its respective cell (see col. 20, lines 39-46; Figs. 10 and 12); a method comprising steps of:

in an operating base station (1), determining the existence of communications occurring in adjacent cells (see col.8, line 29-37; col. 16, lines 11-15, 32-64), where the base station is able to determine the communication in adjacent cells to allocate timeslots according to the power;

receiving, by the operating base station (1), a report of an expected time of high and low interference communications from an adjacent base station (2) (see col.8, line 29-37; col. 16, lines 11-15, 32-64; col. 20, line 39 - col. 21, line 6), where the base station is informed of the low and high interference from an adjacent base station determine how to allocate timeslots in which the report is the control information provided by the MSC or base station during the monitoring of cells. The MSC or BS controller performs the processing decisions in which the BS provides the information of the candidate cells to the mobile unit. Therefore, each BS must have information from each of the adjacent BS. ; and

scheduling transmission of high interference communications associated with a subscriber unit (170) in the cell associated with the operating base station (1) at the expected time of low interference communications in the adjacent cell (2) (see col. 8, line 29-37; col. 9, lines 15-29; col. 10, lines 20-36; col. 16, lines 2-5,11-15,32-64), where the transmission of signals are schedule in accordance to high power with low power to minimize interference between timeslots.

Regarding **Claim 9**, Dent discloses a method as claimed in claim 3, wherein transmission scheduling further comprises:

assigning specific time slots to specific subscriber units (170) (see col. 15, lines 42-49; col. 16, line 2-5, 11-15, 32-64), where the mobile stations are provided timeslots according to the power level of the signal strength and interference level; and

coordinating allocation of a time slot to a high interference communication in one base station (1) with the allocation of a time slot for a low interference communication in an adjacent base station (2) (see col. 8, line 29-37; col. 9, lines 15-29; col. 10, lines 20-36; col. 16, lines 2-5,11-15,32-64), where the transmission of signals are schedule in accordance to high and low power to minimize interference between timeslots.

Regarding **Claim 10**, Dent discloses wherein the coordinated communications are reverse link signals traveling from the subscriber units (170) towards the base stations (160) (see col. 8, line 29-37; col. 9, lines 15-29; col. 10, lines 20-36; col. 15, lines 42-49; col. 16, lines 2-5,11-15,32-64; Fig. 12), where the mobile unit communicates (transmit) data with the base station over a reverse link which would be coordinated according to power and interference level.

Regarding **Claim 11**, Dent discloses wherein the coordinated communications are forward link signals traveling from the base station (160) towards the subscriber units (170) (see col. 8, line 29-37; col. 9, lines 15-29; col. 10, lines 20-36; col. 15, lines 42-49; col. 16, lines 2-5,11-15,32-64; Fig. 12), where the mobile unit communicates (receive) data from the base station over a forward link which would be coordinated according to power and interference level.

Regarding **Claim 12**, Dent discloses scheduling transmission of low interference communications associated with a subscriber unit (170) in the cell associated with the operating base station (1) at the expected time of high interference transmissions from the adjacent base station (2) (see col. 8, line 29-37; col. 9, lines 15-29; col. 10, lines 20-36; col. 16, lines 2-5,11-15,32-64), where the transmission of signals are schedule in accordance to high power with low power to minimize interference between timeslots.

Regarding **Claim 13**, Dent discloses a wireless communication system (see col. 20, lines 39-46; Figs. 10 and 12) comprising:

at least two cells located adjacent to one another, each cell having a base station unit (160) that coordinates communication with remote units (170) located within its respective cell (see col. 8, line 29-37; col. 9, lines 15-29; col. 10, lines 20-36; col. 16, lines 2-5,11-15,32-64; Fig. 12);

a communications link for transmitting, to a first base station (1) from a second base station (2), a report of an expected time of high and low interference communications from an adjacent base station (2) (see col. 8, line 29-37; col. 9, lines 15-29; col. 10, lines 20-36; col. 16, lines 2-5,11-15,32-64; Fig. 12), where the base stations communicate with each other

and the MSC (165) or base station controller which is inherent to provide a report to determine how to allocate timeslots in accordance to high and low power interference. The MSC or BS controller performs the processing decisions in which the BS provides the information of the candidate cells to the mobile unit. Therefore, each BS must have information from each of the adjacent BS. ; and

a processor (129) which reads on the claimed "resource allocator" at the first base station (1) for scheduling transmission of high interference communications associated with a subscriber unit (170) in the cell associated with the first base station (1) at the expected time of low interference communications in the adjacent cell (see col. 8, line 29-37; col. 9, lines 15-29; col. 10, lines 20-36; col. 16, lines 2-5,11-15,32-64), where processor of the base station allocates timeslots to schedule high interference with low interference.

Regarding **Claim 14**, Dent discloses wherein the communication link is a wire line (see col. 20, lines 39-47; Fig. 12), where the communication link is a wire between the base station (160) and MSC (165).

Regarding **Claim 15**, Dent discloses wherein the communication link further comprises a control and processing unit (162) which reads on the claimed "resource allocation station" (see col. 20, lines 39-56; Fig. 12), where the link is connected to the processing unit of the base station (160).

Regarding **Claim 16**, Dent discloses wherein the coordinated communications are reverse link signals traveling from the subscriber units (170) towards the first base station (160) (see col. 8, line 29-37; col. 9, lines 15-29; col. 10, lines 20-36; col. 15, lines 42-49; col. 16, lines 2-5,11-15,32-64; Fig. 12), where the mobile unit communicates (transmit) data with

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the base station over a reverse link which would be coordinated according to power and interference level.

Regarding **Claim 17**, Dent discloses wherein the coordinated communications are forward link signals traveling from the first base station (160) towards the subscriber units (170) (see col. 8, line 29-37; col. 9, lines 15-29; col. 10, lines 20-36; col. 15, lines 42-49; col. 16, lines 2-5, 11-15, 32-64; Fig. 12), where the mobile unit communicates (receive) data from the base station over a forward link which would be coordinated according to power and interference level.

Response to Arguments

3. Applicant's arguments filed 24 June 2004 have been fully considered but they are not persuasive.

Regarding applicant's argument on pg. 3, 5th paragraph, "Dent does not teach or suggest receiving, by the operating base station, a report of an expected time of low interference communications from an adjacent base station", Examiner respectfully disagrees.

Dent discloses receiving, by the operating base station (1), a report of an expected time of low interference communications from an adjacent base station (2) (see col.8, line 29-37; col. 16, lines 11-15, 32-64; col. 20, line 39 - col. 21, line 6; Fig. 12), where the base station is informed of the low and high interference from an adjacent base station to determine how to allocate timeslots in which the report is the control information provided by the MSC (165) or base station (160) during the monitoring of cells. The MSC or BS

controller performs the processing decisions in which the BS provides the information of the candidate cells to the mobile unit (see Fig. 12), where the MSC, BS, and mobile unit communicate within a system. Therefore, the each BS must have information from each of the adjacent BS for the scheduling (coordinating) of timeslots between low and high interference. Also, the information allows for candidate cells to be monitored that may be more suitable for the mobile unit (see col. 21, lines 4-6). Applicant admits on pg. 3, "The present application is directed to coordinating the servicing of high power transmission units located near a cell boundary that are likely to cause interference with units operating in an adjacent cell. Such coordination of time slots for high interference transmission in adjacent cells may be accomplished by exchanging data between adjacent base stations concerning the present operating power levels and schedules for when the high interference time slots may be allocated based on the expected high and low interference transmission times. **Dent is similarly concerned with transmitting cellular signals during allocated time slots.**"

Regarding applicant's argument on pg. 4, 2nd - 3rd paragraph, claims 4, 8-17 are rejected for the same reasons as applied above in the rejecting of claim 1.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. **Benveniste (US 6,128,498)** discloses a wireless communication system for managing of neighbor-channel interference with power control and directed channel assignment as stated in column 14 - column 15 and as shown in Figs. 6a, 6b, 6c, and 10.

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- b. **Plaschke et al. (US 6,023,622)** discloses a wireless communication system as stated in column 8, lines 4 - column 9, lines 29; column 11, lines 48 - column 12, lines 10.

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Willie J. Daniel, Jr. whose telephone number is (703) 305-8636. The examiner can normally be reached on 7:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha D. Banks-Harold can be reached on (703) 305-4379. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

WJD,JR
12 October 2004

Marsha D. Bank-Hawes
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